

REMARKS

The Office Action dated August 7, 2008, has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

By this Response, claim 12 has been amended to more particularly point out and distinctly claim the subject matter of the present invention. No new matter has been added. Support for the above amendments is provided in the Specification at least on page 27, line 23, to page 28, line 3. Accordingly, claims 1-7 and 9-12 are currently pending in the application, of which claims 1, 9, and 11 are independent claims. Applicants request entry of the above amendments because the above amendments place the claims in better condition for allowance.

In view of the above amendments and the following remarks, Applicants respectfully request reconsideration and timely withdrawal of the pending rejections to the claims for the reasons discussed below.

Claim Rejections under 35 U.S.C. §112, First Paragraph

The Final Office Action rejected claims 1-6 and 9-12 under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement. The Final Office Action alleged that the claims contain subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the

claimed invention. In particular, the Office Action alleged that “the support member which would be bearing 49 does not extend from the disc-shaped member which would be mirror surface disc 36. There is no contact between the bearing 49 and the mirror surface disc 36 since the tubular bush 47 is positioned therebetween” (See Office Action on page 2). Applicants respectfully traverse these rejections for at least the following reasons.

Applicants respectfully submit that the Specification provides sufficient support to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. In particular, the Specification at least on page 14, line 9, to page 15, line 11, describes the orientations for bearing 49 and mirror-surface disc 16 recited in claims 1, 9, and 11. Applicants respectfully submit that the Office Action appears to have cited mirror surface disc 36 in rejecting the aforementioned claims, rather than considering the features of the mirror surface disc 16 that corresponds to the claimed disc shaped member.

Therefore, Applicants respectfully submit that the Specification provides sufficient support to satisfy the written description requirement for the features recited in claims 1-6 and 9-12.

Further, the Final Office Action alleged that claim 12 has been amended such that a flow passage is formed near the front end portion *of the disc-molding mold*. The Final Office Action alleged that the original specification does not provide support for these features (See Office Action on page 2).

Accordingly, Applicants have amended claim 12 to recite that *the bush* further comprises “a flow passage through which a temperature control medium flows formed near the front end portion of the bush,” as described in the Specification at least on page 27, line 23, to page 28, line 3, rendering the rejection of claim 12 under 35 U.S.C. §112, first paragraph, moot.

Therefore, Applicants respectfully request withdrawal of the rejections of claims 1-6 and 9-12 under 35 U.S.C. §112, first paragraph, and respectfully submit that claims 1, 9, and 11, and the claims that depend therefrom, are in condition for allowance.

Claim Rejections under 35 U.S.C. §112, Second Paragraph

The Final Office Action rejected claims 11-12 under 35 U.S.C. §112, second paragraph as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Specifically, the Final Office Action alleged that claims 11-12 are directed to “A bush,” however, the bush is only element 47 in the Specification. The Office Action alleged that the claims are unclear as to how the other elements in the claim limit the bush. Applicants respectfully traverse these rejections for at least the following reasons.

Claims 11-12 recite “a bush, comprising: a housing comprising a cylindrical shape, wherein the housing is configured to surround a machining member radially outward, and a support member which extends rearward from a center portion of a disc-shaped member in the thickness direction.” These features are directed to the bush.

Further, claims 11-12 recite “wherein the bush is configured for a disc-molding mold comprising a first mold unit ... wherein the machining member is configured to perform a predetermined machining for a prototype of a molded product when the machining member is advanced.” These features are directed to the disc molding mold with which the bush is configured to operate.

Accordingly, Applicants respectfully disagree with the Office Action’s allegations that the bush is limited to element 47. Rather, as described in the Specification at least on page 13, line 15, to page 15, line 11, bush 47 includes an annular support member which extends rearward from a center portion of mirror-surface disc 16 in the thickness direction (See Figure 3). Therefore, claims 11-12 particularly point out and distinctly claim the subject matter described in the disclosure and illustrated in the figures of the Specification.

Further, the Office Action rejected claim 12 under 35 U.S.C. §112, second paragraph as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In particular, the Office Action alleged that it is unclear to which element, “thereof” is referring.

Accordingly, Applicants have amended claim 12 to more particularly point out and distinctly claim the subject matter of the invention, rendering the rejection of claim 12 moot.

Therefore, Applicants respectfully request withdrawal of the rejections of claims 11-12 under 35 U.S.C. §112, second paragraph, and respectfully submit that claim 11, and the claim that depends therefrom, are in condition for allowance.

Claim Rejections under 35 U.S.C. §102(e) and §103(a)

The Final Office Action rejected claims 1-6 and 9-12 under 35 U.S.C. §102(e) as allegedly anticipated by Toshihiro (Japanese Publication No. 2003-165146) (“Toshihiro”). The Final Office alleged that JP’146 discloses or suggests each and every element recited in claims 1-6 and 9-12.

The Office Action further rejected claims 1-6 and 8-12 under 35 U.S.C. §103(a) as allegedly being unpatentable over Toshihiro ‘146.

Applicants respectfully submit that the claims recite subject matter that is neither disclosed nor suggested in Toshihiro.

Claim 1, upon which claims 2-7 and 10 depend, recites a mold apparatus. The mold apparatus includes a first mold unit, a second mold unit, and a sprue bush disposed in one of the first and second mold units and having a sprue for charging a molding material into a cavity space. The mold apparatus also includes a machining member disposed in the other of the first and second mold units in such a manner that the machining member can be advanced and retracted. The machining member performs a predetermined machining for a prototype of a molded product when the machining member is advanced. The mold apparatus also includes a bush disposed radially outward of the machining member to surround the machining member and having a flow passage

which is formed in a front end portion thereof and through which a temperature control medium flows, and a support member disposed between the machining member and bush. The support member extends rearward from a center portion of a disc-shaped member in the thickness direction.

Claim 9 recites a method of molding a product in a mold apparatus. The mold apparatus includes a first mold unit, a second mold unit, a sprue bush disposed in one of the first and second mold units and having a sprue, and a machining member disposed in the other of the first and second mold units in such a manner that the machining member can be advanced and retracted. The mold apparatus also includes a bush disposed radially outward of the machining member to surround the machining member, and a support member disposed between the machining member and the bush. The support member extends rearward from a position at a front end portion of the machining member. The method includes charging a molding material into the cavity space via the sprue, cooling the molding material so as to form a prototype of the molded product, and advancing the machining member along an inner circumferential surface of the bush via the support member so as to perform a predetermined machining on the prototype of the molded product.

Claim 11, upon which claim 12 depends, recites a bush. The bush includes a housing including a cylindrical shape. The housing is configured to surround a machining member radially outward and a support member which extends rearward from a center portion of a disc-shaped member in the thickness direction. The bush is

configured for a disc-molding mold. The disc-molding mold includes a first mold unit, a second mold unit, and a sprue bush disposed in one of the first and second mold units and including a sprue configured to charge a molding material into a cavity space. The disc-molding mold also includes the machining member disposed in the other of the first and second mold units in such a manner that the machining member can be advanced and retracted. The machining member is configured to perform a predetermined machining for a prototype of a molded product when the machining member is advanced.

Applicants respectfully submit that certain embodiments of the present invention provide non-obvious advantages. Specifically, certain embodiments of the present invention relate to preventing eccentricity from being carried out between a center portion of a disc substrate and a punch hole when hole punching is performed to complete a disc substrate, e.g. a molded product.

Furthermore, certain embodiments of the present invention provide a bearing 49 (a support member) disposed between a bush 47 and a cut punch 48 (a machining member). A mirror-surface disc 16 (a first disc-shaped member) is disposed on the outside of the bush 47, as illustrated in Figure 3. Therefore, because the fit between the bush 47 and the cut punch 48 can be tightened, generation of inclination of the cut punch 48 can be prevented.

Furthermore, in certain embodiments, a front end of the bearing 49 (cavity-side) is located at the center portion of the mirror-surface disc 16 in the thickness direction. Therefore, since the bush 47 can be stabilized on the interior of the mirror-surface disc

16, generation of inclination of the cut punch 48 also can be prevented.

Furthermore, in certain embodiments, the cut punch 48 and the bush 47 share a common axis; therefore, the bush 47 and the mirror-surface disc 16 share a common axis. Accordingly, centering of the cut punch 48 and the mirror-surface disc 16 is performed.

Therefore, when hole punching is performed to complete a disc substrate, e.g. a molded product, eccentricity is not carried out between the center portion of a disc substrate and that of the punch hole.

As will be discussed below, Toshihiro '146 fails to disclose or suggest every claim feature recited in claim 1-6 and 9-12, and therefore fails to provide the advantages and the features discussed above.

Toshihiro '146 is directed to a mold device configured to increase a cooling capacity on the side of a movable mold in a mold device for molding in which a gate cut sleeve is fitted to freely slide in relation to the movable mold through a cylinder for guiding a slide (Toshihiro '146, Abstract).

Toshihiro '146 fails to disclose or suggest each and every element recited in claim 1, and similarly recited in claims 9 and 11. Specifically, Toshihiro '146 fails to disclose or suggest, at least, "wherein the support member extends rearward from a center portion of a disc-shaped member in the thickness direction," as recited in claim 1, and similarly recited in claims 9 and 11.

The Office Action alleged that Toshihiro discloses a disc-shaped member being the equivalent of the combined retainer plate 22 and backing plate 21. The Office Action

further referred to interior plate 40 and *mirror-shaped disc 36*, of Applicants' invention, being bolted together to define the center portion of the disc-shaped member (See Office Action on page 4). Rather, as illustrated in Figure 3 of the present invention, certain embodiments provide for a front end of bearing 49 on the cavity-side being located at a center portion of *mirror-surface disc 16* extending in the thickness direction, not from interior plate 40 or mirror-shaped disc 36. Furthermore, Figure 3 of Toshihiro fails to illustrate that bearing 32 extends *rearward* from a center portion of either movable retainer plate 22 or backing plate 21.

Therefore, Toshihiro fails to disclose or suggest, at least, "wherein the support member extends rearward from a center portion of a disc-shaped member in the thickness direction," as recited in claim 1, and similarly recited in claims 9 and 11.

Claims 2-6 and 10 depend from claim 1. Claim 12 depends from claim 11. Accordingly, claims 2-6, 10, and 12 should be allowable for at least their dependency upon an allowable base claim, and for the specific limitations recited therein.

Therefore, Applicants respectfully request withdrawal of the rejections of claims 1-6 and 9-12 under 35 U.S.C. §102(e) and §103(a), and respectfully submit that claims 1, 9, and 11, and the claims that depend therefrom, are now in condition for allowance.

CONCLUSION

In conclusion, Applicants respectfully submit that Toshihiro '146 fails to disclose or suggest each and every element recited in claims 1-7 and 9-12. The distinctions previously noted are more than sufficient to render the claimed invention unanticipated and non-obvious. It is therefore respectfully requested that all of claims 1-7 and 9-12 be allowed, and this present application be passed to issuance.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, Applicants' undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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Enclosures: Petition for Extension of Time
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